REMARKS

The Examiner's action and the grounds for rejection set forth therein have been very carefully considered and the claims have been amended accordingly. Claims 7, 8, 10 and 17-19 have been canceled, claims 15 and 16 have been rewritten and new claims 20-29 have been added. In addition, responsive to the rejection under 35 USC 112, second paragraph, claims 15 and 16 have been amended to indicate that the cams are arranged about the periphery of the cam ring and claims 10 and 19 have been canceled. Accordingly, the rejection under 35 USC 112, second paragraph should be reconsidered and withdrawn.

Claims 7, 8, 10, 15 and 16-19 stand rejected under 35 USC 102(b) as being anticipated by Wells (U.S. Patent No. 296,093). Claims 7, 8, 10 and 17-19 have been canceled. Claims 15 and 16 have been amended and new claims 20-29 have been added. As applied to remaining claims 15-16 and 20-29, this ground of rejection is respectfully traversed for the reasons which follow.

As set out on page 1 of the specification, the present invention addresses the problems associated with large diameter hoses, where the internal pressures are high and the mechanical load on the cam ring and cams can be appreciable. The claims now specifically refer to large diameter hoses, where the person skilled in the art will appreciate that the forces involved are much higher than those, for example, in the hose coupling of Wells. This can be seen in that Wells does not refer to firefighting hoses or to large diameter hoses and, therefore, one skilled in the art could not reasonably assume that Wells, from the year 1884, provides any suggestions with respect to modern day firefighting equipment, with high pressure hoses experiencing up to 700 psi. The hose couplings which are the subject of the present claims range in sizes from 6-16 inches in diameter (about 150-400 mm). Typically, these couplings are produced by metal casting and U.S. standards for such casted components require that they withstand pressures of 700 psi.

Another important consideration is the practical one of how accurately the respective contact surfaces of the cams can be machined. Typically, internal mechanical stress and bending moments will arise within the cam ring. This raises two factors which mjust be considered in designing cam rings, namely, the limits of the mechanical load acceptable for the material used

as well as the number of cams over which the maximal internal stress can be distributed. Applicants have found that a coupling member with 12 cams is optimal for large volume hoses with a diameter of several hundred millimeters. Moreover, applicants have found that providing more material at the base of the cams, i.e., by employing a sloped surface between the outer diameter of the cylindrical hose attachment connector and the largest outer diameter of the coupling, enhances the load-carrying capability of the individual cams. This, in turn, allows higher axial forces to be taken up by the cams when the coupling members are assembled.

A further important advantage of providing 12 cams is the smaller rotational angle required when connecting the two coupling members. As will be appreciated, large diameter hoses of the type in question here, are not particularly easy for one person to connect and disassemble. Such large diameter hoses are difficult for one person to manipulate, i.e., to place the two hose ends in alignment, urge the two ends together and to rotate the ends to complete the coupling. With 12 cams, it will be appreciated that the amount of rotation is substantially reduced, which simplifies the assembly process.

Amended claims 15 and 16 now recite that the symmetrical hose coupling is for large volume hoses having a diameter in the range of several hundred millimeters and the cam ring has 12 cams arranged about the periphery of the cam ring. See specification at page 1. New claims 20 and 21 now recite that the cams project radially from the cam ring to form a sloped outer surface extending from the outer diameter of the cylindrical hose attachment connector to the largest outer diameter of the coupling. See Figures 1 and 3. New claims 26 -29 now recite specific locking mechanisms, in the nature of spring-loaded pins (claims 26-27) and leaf springs and attached spacers (claims 28-29) to block the cams, following attachment, against reverse rotation.

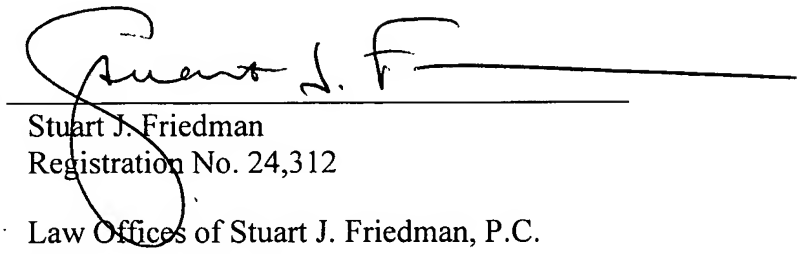
Turning now to the cited reference to Wells, it can be seen that Wells discloses "a collar or piece of tubing A, is attached to the end of each hose, and to the outer surface of each piece of tubing A two hook-prongs, B, are secured opposite each other, which project beyond the end of the piece of tubing." Wells at page 1, lines 29-34. There is no disclosure in Wells that the connector disclosed therein is intended or suitable for large volume hoses having diameters in the range of several hundred millimeters. It is noteworthy, contrary to the Examiner's assertions,

that the hook-prongs or cams B of Wells are separate components which "are secured" to tubing A. Thus, Wells' cam ring is not "integrally formed in one piece with the cylindrical hose attachment connector" as the Examiner asserts on page 5 of the office action. The Examiner's rationale that there is a difference between the phrase used by applicant in the claims "integrally formed in one piece" and the term "monolithic" (and, presumably, that Wells' cams are integrally formed in one piece with the connector but not monolithic) is completely without merit. The term "integrally formed in one piece" means simply that the connector and the cam ring are formed as an inseparable unitary piece, as by casting, i.e., they are not simply connected together. In other words, they are "monolithic." This latter term is defined by the Merriam-Webster OnLine Dictionary to mean " **2a**: cast as a single piece . . **b**: formed or composed of a material without joins or seams . . . **c**: consisting of or constituting a single unit. . . ." See **http//www.merriam-webster.com/dictionary/monolithic**. A copy of this web page is attached for the Examiner's information. The Examiner cannot change the meaning of common English language words merely by his saying so. The terms "integrally formed in one piece" and "monlithic" are substantially synonymous. By any interpretation of Wells, his cams are "secured", i.e., attached, to the tubing and not integrally formed in one piece (or monolithic) with the tubing. Moreover, it is evident that the Wells coupling provides only two cams arranged opposite each other, and not the twelve cams set forth in claims 15 and 16. Further, the Wells cams do not project radially from the cam ring to form a sloped outer surface, as is recited in claims 20 and 21. For these reasons, at least, the independent claims 15, 16, 20 and 21 are not anticipated by Wells. It is also clear that there is no teaching or suggestion in Wells for providing locking mechanisms, such as the spring-loaded pin of claims 26-27 or the leaf spring and attached spacer of claims 28-29, to prevent reverse rotation of the cams following attachment.

In view of the foregoing, it should be clear that none of claims 15, 16 and 20-29 are anticipated by Wells within the meaning of 35 USC 102(b). Accordingly, these claims are allowable over the art of record and an early Notice of Allowance directed thereto is respectfully requested. Should the Examiner deem that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney to expedite the prosecution and

engage in a joint effort to work out a mutually satisfactory solution.

Respectfully submitted,

By: 

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monolithic

One entry found.

On Off

Main Entry: **mono·lith·ic**
Pronunciation: \mä-nə-'li-thik\
Function: *adjective*
Date: 1825

1 a : of, relating to, or resembling a **monolith** : HUGE, MASSIVE **b** (1) : formed from a single crystal <a *monolithic* silicon chip> (2) : produced in or on a monolithic chip <a *monolithic* circuit>
2 a : cast as a single piece <a *monolithic* concrete wall> **b** : formed or composed of material without joints or seams <a *monolithic* floor covering> **c** : consisting of or constituting a single unit
3 a : constituting a massive undifferentiated and often rigid whole <a *monolithic* society> **b** : exhibiting or characterized by often rigidly fixed uniformity <*monolithic* party unity>
— **mono·lith·i·cal·ly** \-thi-k(ə-)lē\ *adverb*

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Pronunciation Symbols

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